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## [Claims]

- 1. A method for producing reactive organic compounds poly-DOPO, which are obtained containing 9,10-dihydro-9-oxa-10-5 addition of phosphaphenanthrene-10-oxide (DOPO) acetylenically unsaturated compounds which carry reactive groups, in the presence of a catalyst which is suitable for the addition of triple 10 bonds.
- 2. The method as claimed in claim 1, wherein the DOPO and the organophosphorus compound acetylenically unsaturated compound are reacted 15 with one another in the ratio 1.5 to 3 mol of DOPO per triple bond, preferably 1.9 to 2.1 mol of DOPO per triple bond.
- 3. The method as claimed in claim 1 and 2, wherein the acetylenically unsaturated compounds used are alkynes, alkynols, alkynecarboxylic acids, alkynecarboxylic esters or corresponding alkadiyne compounds.
- The method as claimed in claim 1 to 3, wherein the 25 4. of the catalyst used for the reaction organophosphorus compound DOPO with the acetylenically unsaturated compound is salts or copper salts or amines or, preferably, 30 aluminum triisopropoxide.
  - 5. The method as claimed in claim 1 to 4, wherein the addition reaction is carried out in solution, where the solvent used is preferably 1,4-dioxane.
  - 6. The use of the reactive organic compounds containing poly-DOPO prepared as in claims 1 to 5

as flame retardant for thermoplastic polymers.